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UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION.

NO. 76.

BULLETIN OF FOREIGN PLANT INTRODUCTIONS.

May 1 to 31, 1912.

NEW PLANT IMMIGRANTS.

(NOTE: Applications for material listed in this bulletin may be made at any time to this Office. As they are received they are filed, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.)

GENERA REPRESENTED IN THIS NUMBER.

Acer	33355-356	Heterophragma	33547
	33588	Indigofera	33608
Alysicarpus	33598	Lagerstroemia	33548
	33600	Lithraea	33697
	33640	Medicago	33711-712
Andropogon	33596	Meibomia	33591
	33597	Musa	33689
Avena	33644	Nicotiana	33671
Backhousia	33643	Opuntia	33321-335
Beaumontia	33544		33340
Capsicum	33637	Pennisetum	33611-612
Crotalaria	33604-605	Pimenta	33716
Cucumis	33703	Porana	33549
Cuminum	33646	Prunus	33657-665
Erythrina	33673	Ruellia	33713
Eugenia	33705	Schinus	33698

PLATE: ~~XXXXXXXXXXXXXXXXXXXXX~~ Bumulan banana.

PLATE: Aleurites Fordii. fruit of China wood-oil tree.

MATTER IN THIS BULLETIN IS NOT TO BE PUBLISHED WITHOUT SPECIAL PERMISSION.

ACER GINNALA SEMENOVII. (Aceraceae.) 33355-356. Seeds of a maple from the St. Petersburg Botanical Garden. Presented by Dr. A. Fischer von Waldheim, Director. "A small, shrubby, very hardy maple which will probably stand considerable drought as well as very severe cold." (F. N. Meyer.) For distribution later.

ACER OBLONGUM. (Aceraceae.) 33588. Seeds of a maple from Mussoorie, India. Collected by Mr. C. V. Piper. "A handsome maple tree with oblong leaves. Abundant on the mountain slopes at Mussoorie, India, and also cultivated at Dehra Dun." (Piper.) For distribution later.

ALYSICARPUS VAGINALIS. (Fabaceae.) 33598, 33600, 33640. Seeds from India. Collected by, or presented at the request of, Mr. C. V. Piper. "A spreading legume, considered one of the best grazing plants for cattle." (Piper.) 33640. Var. nummularifolius. "A tall growing legume, readily eaten by cattle. Where much pastured it tends to become dense and prostrate." (Piper.) For distribution later.

ANDROPOGON ANNULATUS. (Poaceae.) 33596. Seeds from Lucknow, India. Collected by Mr. C. V. Piper. "One of the abundant grasses of the Ganges valley growing to a height of from 2 to3 feet and said to furnish an excellent quality of hay." (Piper.) For distribution later.

ANDROPOGON PERTUSUS. (Poaceae.) 33597. Seed from Saharanpur, India. Presented by Mr. A. C. Hartless, Superintendent of the Botanical Gardens. "One of the most abundant grasses of the Ganges valley growing 2½ feet high, with fine stems, and considered to furnish an excellent quality of hay." (Piper.) For distribution later.

AVENA SATIVA. (Poaceae.) 33644. Seeds of an oat from Hamilton East, New Zealand. Presented by Mr. P. McConnell, manager, Ruakura Experimental Farm. "Rust Proof Oat. This oat is a selection from the 'Argentina' oat. Its grey color rather spoils its appearance, but should it remain rust-proof, it will be a great acquisition." (McConnell.) For distribution later.

BACKHOUSIA CITRIODORA. (Myrtaceae.) 33643. Seeds from Sunnybank, Queensland. Purchased from Mr. John Williams,

Sunnybank Nursery. "A myrtaceous shrub or small tree native to southern Queensland, and allied to Eucalyptus. The leaves yield four percent fragrant volatile oil, appearing to consist almost entirely of citral, the valuable constituent of all lemon oils. Appears promising for commercial culture." (W. Van Fleet.) For distribution later.

BEAUMONTIA GRANDIFLORA. (Apocynaceae.) 33544. Seeds from Seharanpur, India. Presented by A. C. Hartless, Esq., superintendent Botanical Gardens, at the request of Mr. C. V. Piper. "An evergreen climber with broad leaves and bearing throughout the summer, large, pure white, odorous, trumpet-shaped flowers. A very handsome vine for porches and trellises." (Piper.) For distribution later.

CAPSICUM ANNUUM. (Solanaceae.) 33637. Seed of red pepper from Chihuahua, Mexico. Presented by Mr. Marion Letcher, American consul. "This looks like a red pepper of the type to which the Hungarian paprika belongs and is of particular interest on account of the probability of its disease resistance." (R. H. True.) For distribution later.

CROTALARIA MEDICAGINEA. (Fabaceae.) 33604-605. From Samaria Ghat, India. Collected by Mr. C. V. Piper. "An annual erect legume growing 18 to 30 inches high, very closely resembling alfalfa in appearance. Flowers pale yellow. The leaves have a good flavor and it looks as if it might be a good fodder plant." (Piper.) For distribution later.

CUCUMIS MELO. (Cucurbitaceae.) 33703. Seeds of musk-melons received through Mr. Jose D. Husbands, Limavida, Chile. "By Chilean custom irrigated fields are rented to the dry farmers in lots of 1 cuadra (4 acres) to each renter for their 'chacra.' The rental price is a contracted number of sacks of beans. In these chacras are planted beans, potatoes, corn, squashes, aji, musk and watermelons. As squashes and melons have the natural faculties of aero-hybridization, these notes refer to this phenomena and give my opinion of the causes of the excellence created in Chilean melons. A hundred or more tenants have adjoining lands in which to sow and plant their food crops, no attention being given to the seeds planted except squashes and melons, and such care as may be given is unknown to the persons themselves. When a squash is cooked or a melon eaten, if they are exceptionally good as to sweetness, flavor, productiveness, etc., the seeds are saved and generally put into a bag hung up for this purpose. This is repeated until sufficient mixed seed is accumulated. In this manner a large variety of all good selected seeds are sown the next

year. As each tenant does the same thing, only with a different assortment, each field of chacras is yearly sown with a hundred or more different collections of seeds, selected especially by taste only and not by sight. Atoms of pollen aviate great distances, and as no two melon patches are a greater distance than 60 meters apart, the aerial hybridizing commences and ends with the bloom. In this way every melon ripens with its seeds crossed by some other or others of equal, but perhaps different merits. Every year new kinds of melons are created and these ignorant people are selectors by taste instead of scientific attainments. There are no people better fit to judge of melon quality than these, as they live upon them during their season. As this breeding process of crossing improved sorts is continued, year after year, it is not surprising that Chilean melons have reached a high degree of excellence. The seed sent was a production of this year, having flavor, quantity, and character of its own, so firm as to be a good shipper. If its merits can be reproduced it is extra good, but as they are already crossed there is no security." (Husbands.) For distribution later.

CUMINUM CYMINUM. (Apiaceae.) 33646. Seeds of cumin from Valletta, Malta. Presented by Mr. James Oliver Laing, American consul. "The seed of the cumin plant is raised in Malta and the most of the crop is exported. It has various uses: It forms the flavoring basis of several drinks, among them kümmel. Cumin seed is also used in the Netherlands and several other places as a flavoring for cheese. In Syria and Egypt and probably in other Mohammedan countries it is used as a condiment. Cumin is of the parsley family and has fennel-like leaves. It is a cultivated crop in Malta but I have seen it growing wild in Egypt and the hills of the Palestine hinterland. Altitude seems to affect the growth of the plant very little. In Malta it is grown a few feet above the sea and within a stone's throw of it and it also grows wild in the highland valleys of Hindustan, 7000 feet above the sea and inland. The Malta cumin plant grows about one foot or a little less in height. Cumin is planted in Malta in January or February and the crop is ready for the harvest in June or July. Weather conditions (rain and temperature) make a few weeks difference occasionally in the times for planting and reaping. One crop a year is raised and it must be planted each year. No attempt is made at cultivation while the crop is growing. When ready to be harvested the whole plant is pulled up by the roots by hand. This is easy as the roots are readily broken and the soil is very porous and light. After pulling the plants from the ground, they are beaten against a board or bar to knock the seeds loose. Seeds are winnowed to

clean them of chaff and dirt. They are then stored in sacks or simply piled in a dry place on a floor. The aromatic odor in one of these storehouses is so strong that it is almost impossible to enter when the door is first opened. Cumin seed will keep more than a year but buyers always prefer the new crop because the fresh seed are more aromatic. In the trade here, the middleman system prevails. A contract is made by the farmer that the seed is 97 per cent pure, that is, that they contain not more than 3 per cent of foreign matter. The commission merchant pays about $9.00 per 175 pounds." (Laing.) For distribution later.

ERYTHRINA POEPPIGIANA. (Fabaceae.) 33675. Seeds of "bucare" from Porto Rico. Presented by Mr. S. M. Tracy, special agent of this Department, Biloxi, Miss. "Also known as 'palo de boyo.' A leguminous tree of 15 to 20 meters beset with short conical spines; flowers red. Cultivated as a shade tree for coffee and reported from numerous localities in Porto Rico. It is a native of the lower Andes of Peru." (Cook and Collins, Economic plants of Porto Rico.) For distribution later.

EUGENIA SP. (Myrtaceae.) 33705. Seeds of "temu" from Chile. Procured through Mr. Jose D. Husbands, Limavida, Chile. "This is the first 'temu' I have found giving fruit. I consider this an extra valuable find. The fruit is perfectly round, black, glossy, with a good quantity of juicy, wine-colored flesh. The flavor is aromatic and agreeable, something like wintergreen berries. It has no sort of repugnance. Its size for each tree is the same, that is, all the fruit on a tree is exactly alike, no large and no small ones. Some trees bear fruit a trifle larger than others, the smallest size being $\frac{3}{8}$ of an inch in diameter, the largest $\frac{1}{2}$ of an inch. Each berry has but one seed which readily separates from the flesh. It is prolific to excess, the tree being black with fruit. The glossy leaves are fragrant and evergreen, falling only after the new ones are formed. In bloom the tree is charmingly white with a mass of delightfully fragrant flowers which perfume the adjacent air for a distance. The natural tree growth and form leaves nothing to be desired. Without any kind of improvements this may be added to your list of cultivated fruits. For breeding purposes it has great possibilities." (Husbands.) For distribution later.

HETEROPHRAGMA ADENOPHYLLUM. (Bignoniaceae.) 33547. Seed from Seharanpur, India. Presented by A. C. Hartless, Esq., at the request of Mr. C. V. Piper. "A large tree with handsome leaves and large yellow flowers. Used as an avenue tree." (Piper.) For distribution later.

INDIGOFERA LINIFOLIA. (Fabaceae.) 33608. Seeds from Dehra Dun, India. Collected by Mr. C. V. Piper. "A legume with fine stems and numerous small leaves, growing to a height of 6 or 8 inches. Considered one of the best pasture plants of the Ganges valley." (Piper.) For distribution later.

LAGERSTROEMIA SPECIOSA. (Lythraceae.) 33648. Seeds from Seharanpur, India. Presented by A. C. Hartless, Esq., superintendent, Botanical gardens. "An evergreen tree growing to a height of 30 to 40 feet, with handsome foliage and large purple flowers in clusters. One of the handsomest flowering trees of the East Indies." (Piper.) For distribution later.

LITHRAEA CAUSTICA. (Anacardiaceae.) 33697. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "A comestible fruit, small, sweet, and good for unfermented chica or cider. Although the tree is poisonous the fruit is not." (Husbands.) For distribution later.

MEDICAGO HISPIDA RETICULATA. (Fabaceae.) 33711-712. Seeds of a bur clover from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "A dwarf bur clover which is late and new to me. This beardless sort spreads upon the ground, and is so interwoven with each other as to completely cover it with a dense growth of animal food, especially suitable for sheep. The leaves rise above the ground from 2 to 3 inches. Feeding upon this will not destroy the plant like the larger varieties, as when the leaves are removed it sprouts anew and does not die. The larger sorts dry up after seeding more or less like peas. They are not climbers but lean against some support and then support each other rising to a height of from 20 inches to 4 feet, according to the kind. They grow quickly from self sown seed in any poor soil. In fertile moist land it thrives wonderfully." (Husbands.) For distribution later.

MEIBOMIA SP. (Fabaceae.) 33591. Seed from Mussoorie, India. Collected by Mr. C. V. Piper. "A shrub 6 to 12 feet high with handsome pink flowers in racemes. Decidedly ornamental." (Piper.) For distribution later.

MUSA SP. (Musaceae.) 33689. Suckers of banana from Manila, Philippine Islands. Presented by Mr. W. S. Lyon. "The 'Bumulan' is rated our second best in quality and by many accorded equal rank in quality with 'Lacatan' and is in all respects a better carrier. I can vouch for it as being a robust healthy grower and so far as I have observed free from disease. The fruit is borne 100-120 to the bunch and is

yellow, with streaks of green. It is not, however, a very attractive market fruit." (Lyon.) For distribution later.

NICOTIANA TABACUM. (Solanaceae.) 33671. Seeds of tobacco from Bagdad, Mesopotamia. Presented by Mr. Emil Sauer, American consul. Reported to be seed of the Shiraz tobacco, famous throughout the East for its fine qualities. For distribution later .

OPUNTIA SPP. (Cactaceae.) 33321-335, 33340. Cuttings of opuntias from Alpes Maritimes, France. Presented by Mr. Robert Roland Gosselin, Villefranche sur Mer. Cuttings of sixteen recently described species secured for comparative studies and tests. For distribution later.

PENNISETUM CILIARE. (Poaceae.) 33611-612. Seeds from Lucknow and Lahore, India. Collected by Mr. C .V. Piper. "This is the best native hay grass of the Ganges valley, growing to a height of 2½ feet and forming nearly pure growths. Much of it is cut for hay." (Piper.) For distribution later.

PIMENTA ACRIS. (Myrtaceae.) 33716. Seeds of the bay tree from Port Louis, Mauritius. Presented by Mr. G. Regnard. "A myrtaceous tree, 45 to 50 feet high, with straight trunk 15 to 24 inches in diameter. Furnishes a moderately hard and heavy wood, fine and compact in texture. From the dried leaves of this tree is obtained by distillation with water an essential oil, called 'bay oil' or 'oil of bay,' the most important ingredient of bay rum. Only a pint and a half of oil is said to be required for the medication of 100 gallons of rum. The latter should be of good quality and strength. If below 18 or 19 proof it will not properly incorporate the oil. Large quantities of dried leaves of this species are exported from the West Indies, notably from the island of Dominica. They are generally put up in bales of about 200 lbs. in weight." (Cook and Collins, Economic Plants of Porto Rico.) For distribution later.

PORANA PANICULATA. (Convolvulaceae.) 33549. Seeds from Seharanpur, India. Presented by A. C. Hartless, Esq., Superintendent, Botanical Gardens. "A perennial climbing vine with numerous panicles of small white flowers. It is much used as an ornamental climber in India and is one of the best vines for this purpose." (Piper.) For distribution later.

PRUNUS SPP. (Amygdalaceae.) 33657-665. Cuttings of cherries from Novospaska Station, Syzran-Riazan railway, Simbirsk govt., Russia. Presented by Mr. A. D. Woeikov. Nine

varieties of cherries of varying hardiness all worthy of trial. For distribution later.

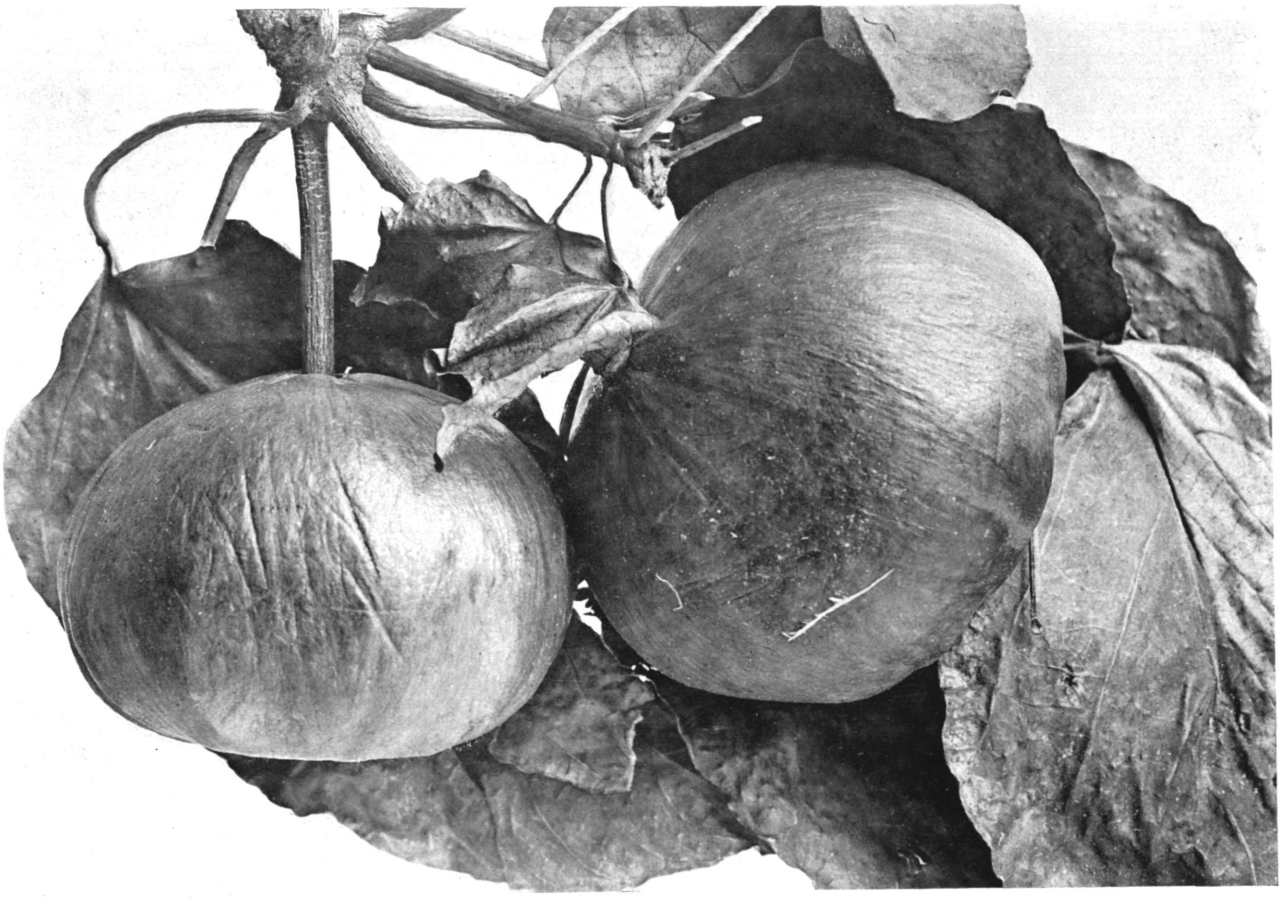
RUELLIA TUBEROSA. (Acanthaceae.) 33713. Seeds from Barbados. Presented by Mr. Patrick O'Mara, New York. "These seeds were received from one of our customers in Barbados. She does not give any botanical name; merely that it is commonly called 'Many-roots' and that it bears beautiful mauve flowers. She further states that the roots are a cure for indigestion. Steep 2 roots or tubers in a small cup of boiling water for a few minutes, pour off and drink with a ittle salt,' twice daily." (O'Mara.) For distribution later.

SCHINUS LATIFOLIUS. (Anacardiaceae.) 33698. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "The country people esteem this fruit and make quantities of chica (a fermented drink) in the same way as 'maqui' (Aristotelia macqui) is used. It is healthful and agreeably refreshing." (Husbands.) For distribution later.

NOTES FROM FOREIGN CORRESPONDENTS.

PAPUA. Barodobo, Rigo. Mr. A. C. English writes May 21 concerning the Ceara rubber: "I planted a few Manihot glaziovii from Ceara. In 10 months they have grown 16 feet high, and are one and a half inches through. The many plantations that have started in Papua appear to favor the planting of Hevea brasiliensis, which appears to me to be out of its element, or it requires a much greater rainfall than we get here. There are now producing six plantations of sisal each of about 500 acres and all appear to be satisfied with the results. It may interest you to know that we are obtaining 1¼ tons per acre from our small plantation at Rigo from 3½ year old plants, first cutting, but many of the plants are showing signs of poling. With reference to your former inquiry for seeds of the Manssanas tree , related to the jujube, I fear I shall have to abandon the search, as I have failed to trace it, as have also many friends here."

(Issued July 1, 1912.)



ALEURITES FORDII. FRUIT OF THE CHINESE WOOD-OIL TREE.

The Chinese wood-oil tree or "tungshu," is a native of the central and southern provinces of China up to 34° north latitude. In this country it is growing and bearing in the Gulf States and in California and has withstood temperatures ranging from 16° to 114° F. It is also quite drought-resistant. The tree averages 20 feet in height and bears large white flowers in early spring before the appearance of the leaves, which are large, ovate and hairy beneath. The fruit, which in China is harvested in October, is the size of a large apple, with a soft green skin, and contains usually five seeds the size and shape of a small rounded Brazil nut. These seeds yield about 25 per cent of one of the quickest drying and hardest oils known. It is more waterproof than linseed oil, but less elastic. In its physiological effects it strongly resembles castor-oil. As this oil on account of the revolution in China is now bringing about 12 cents per pound, or nearly one dollar per gallon, and is normally worth probably 60 cents per gallon, and as the United States imported during the fiscal year 1910-1911 about 5,000,000 gallons, there is every prospect of a steady market for any quantity we can produce. Photograph natural size from specimens from a tree (S. P. I. No. 21013) sent Mr. A. R. Hopkins, Biloxi, Miss. in 1908.